

A White Paper from the  
Chain Link Fence Manufacturers Institute



# ***How Anti-Intrusion, Anti-Climb Chain Link Fencing Systems Can Help Protect America's Borders***

*High security, anti-intrusion, anti-climb chain link mesh is manufactured in dozens of mesh and wire gauge configurations, many of which have been developed in recent years. These new chain link anti-intrusion, anti-climb fences can be designed to suit the needs of multiple applications, and to solve the problems the U.S. Customs and Border Protection Service (CBP) has identified as priorities in securing America's borders.*

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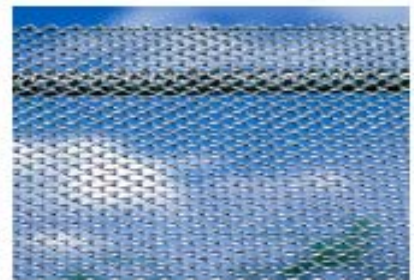
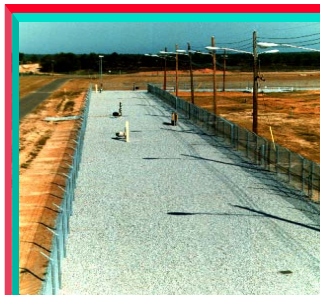
## Specifically, anti-intrusion, anti-climb chain link fence can be used as:

### 1) A **Primary Fence** in remote areas

- **Flexibility**- Chain link fabric flexibility makes it *uniformly easy to install in virtually all terrains* as it flexes to follow the terrain, *making installation more uniform and safer*.
- It acts as *deterrent to intruders* who may have expended much energy reaching the border through desolate and hostile environments
- It *supports surveillance equipment* that allows *timely intervention* by CBP personnel
- It is (by far) the most *cost effective* fencing material
- It's anti-climb features *delay access* to U.S. territory

### 2) A **Secondary Fence** in a two-or three-layer fencing system

- Properly designed anti-intrusion, anti-climb fences can assist in *controlling and screening authorized entries* into a secured area by *detering entry* elsewhere along the boundary.
- It *supports surveillance, detection, assessment, and other security functions* by providing a zone for installing intrusion detection equipment and closed-circuit television (CCTV).
- It *deters intruders* from penetrating a secured area by presenting various types of barriers, which require escalating levels of overt action to breach.
- It *causes a delay to obtain access* to a facility or area, thereby increasing the possibility of detection.
- It *creates a clear zone* with enough room to effectively integrate components, while the two fences maintain constant separation and allow for sensors.



### 3) A **Tertiary Fence** in a three-layer fencing system.

- Several variations of *cabling systems*, including a K 8 anti-vehicle cable barrier combined with security-grade chain link fences, have been tested as effective in *delaying and deterring vehicular breaches*, as well as limiting (due to its flexibility) the risk of vehicles sliding under/over the barrier (i.e. Arresting Cable Vehicle Barrier Report, Sandia National Laboratories, April 25, 2003 and DOE).
- **Visibility**- even with smaller mesh sizes chain link allows for visual detection of intruders.
- **Technology support** – chain link fabric and framework can be combined into versatile, strong platforms for mounting cameras, sensors and listening devices and other surveillance equipment
- **Cost effectiveness** – even with upgraded materials, chain link fence is usually 10-20% less costly than alternative fencing systems. In addition, the *installation of a chain link system is usually substantially less than other systems* (ref: U.S. Corps of Engineers Life-Cycle Cost Comparison Study of Barrier Fencing Systems).
- **Versatility** - chain link can be used in combination with other fencing and barrier systems to provide varying levels of security. Chain link fabric flexibility makes it *much more versatile to install on uneven terrain* as it flexes to follow the terrain, providing a more secure installation.

## Here are the key values of an effective anti-intrusion, anti-climb chain link fence.

1. **ANTI-INTRUSION, ANTI-CLIMB CHAIN LINK SECURITY MESH** is available in 1/2" & 3/8" mesh with 11 gauge wire (0.102' dia.) or 9 gauge wire (0.148' dia.). This mesh is extremely **difficult to climb and penetrate**, resulting in **increased delay time**. It does not provide a finger or foot hole for climbing and **would require multiple cuts to breach**. It also has vital **"see through" capability** which provides **enhanced safety for CBP personnel**.
2. **CORROSION RESISTANCE**: Anti-intrusion security mesh is available with a galvanized zinc coating, an aluminized coating and color polymer coating.
3. **SPECIFICATION COMPLIANCE**: Anti-intrusion, anti-climb security mesh is specified and complies with **ASTM** (American Society of Testing and Materials) **specifications**.
4. **AVAILABILITY**: Multiple manufacturers produce the anti-intrusion security mesh so **availability is not an issue**.
5. **FLEXIBILITY**: Just like all other chain link mesh the anti-intrusion security mesh is **flexible and follows the uneven terrain**. No stepping of panels or spaces under the fence!
6. **INSTALLATION**: Chain link fabric has **been installed in the United States for over 80 years and is still the mainstay of security fencing**. There are many excellent installation contractors with well-trained installers **capable of handling the border fence conditions**.
7. Chain link mesh is a woven mesh produced in rolls. The rolls are woven together during the installation process resulting in **one secure length**. Once woven together, stretched and secured the mesh absolutely **cannot be unwoven by cutting one picket and weaving it out!** Panel fencing is required to be secured to every post providing a possible weak point.
8. Chain link fence is supported by steel framework. All **chain link framework** complies with ASTM and FEDERAL SPECIFICATION RR-F-191 material specifications including the galvanized zinc coating and additional polymer color coatings. Framework is readily available to **withstand the WIND-LOAD and SECURITY requirements** for the anti-intrusion security mesh. Framework is readily available from multiple manufacturers.
9. Chain link **gates and fittings** are specified within ASTM and Federal Specification RR-F-191. Gates and fittings are available using **heavier sizes and gauges to comply with various levels of security**.
10. All material referenced is available from U.S. manufacturers and **complies with the Buy America Act**.

## CONCLUSIONS

Anti-intrusion chain link fencing systems should be considered an indispensable part of the CBP's battle to regain and maintain control of the U.S. border. When used in conjunction with other fences and barriers, anti-intrusion chain link fence provides a **cost-effective** and **versatile** way to help track and substantially reduce the flow of illegal traffic into the United States. Anti-intrusion chain link fencing can help deter, delay, and detect border intrusions while allowing precious human and financial resources to be allocated to other immigration and border priorities.

The Chain Link Fence Manufacturers Institute and its member companies stand ready to provide not only the materials and services but also the technical and operational consulting needed to help protect America's borders

For additional information, technical assistance, and recommendations on the effective deployment of chain link fence systems to help protect U.S. borders contact:

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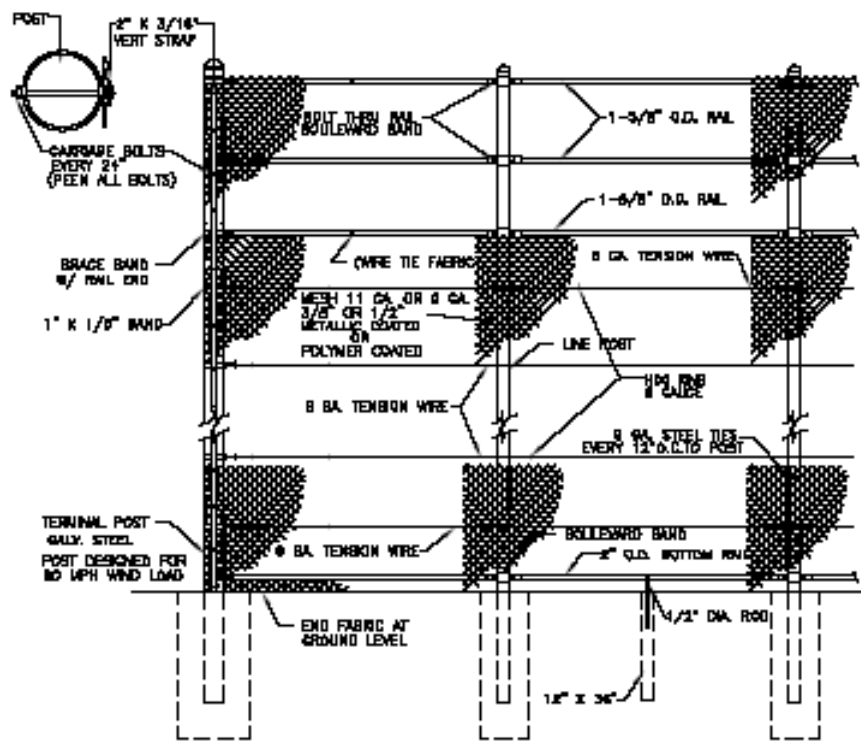
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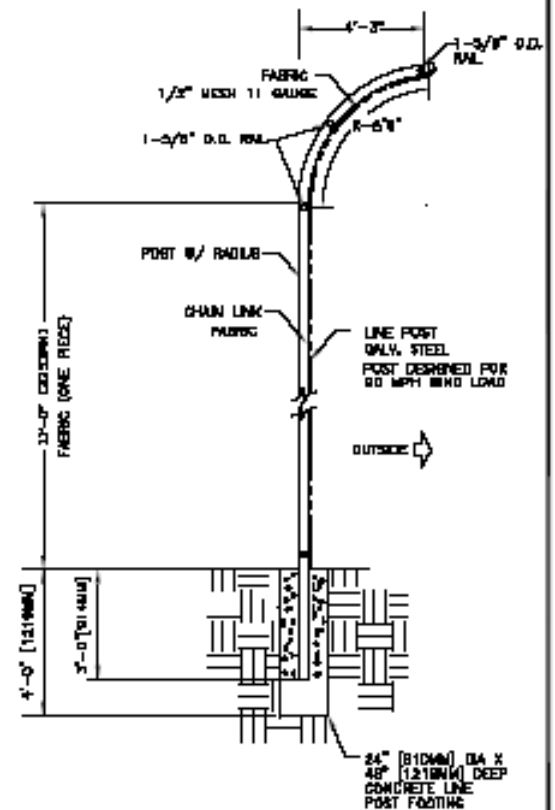
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NOTES:  
ALL MATERIAL MUST SPECIFICATIONS

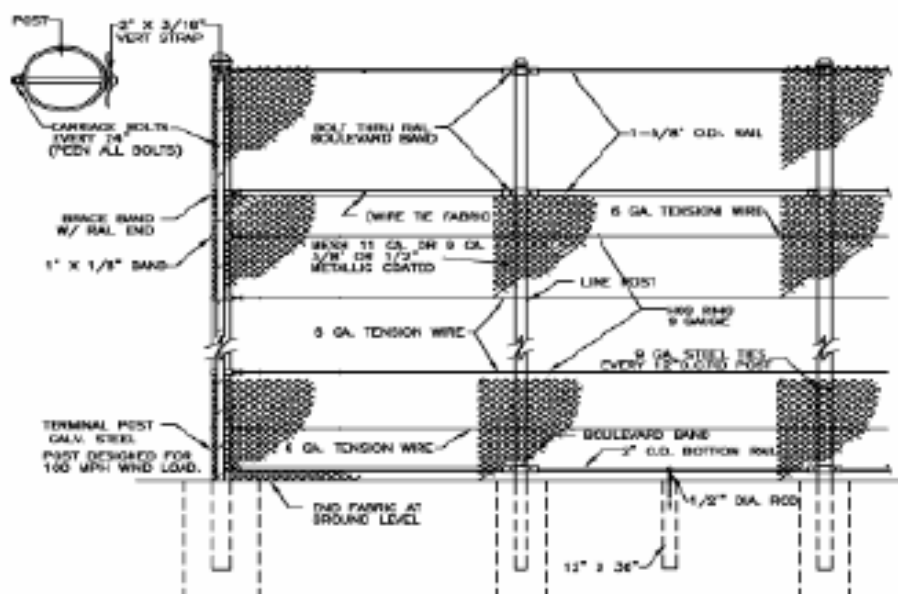
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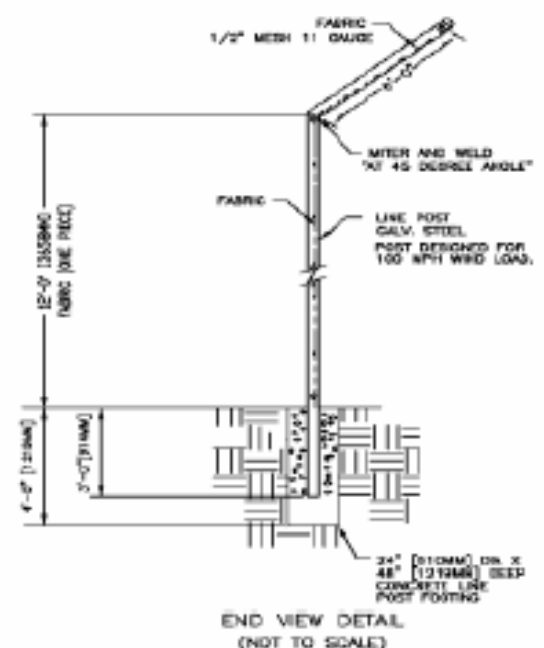
## Anti-intrusion, Anti-climb Chain Link Fence Design Specifications

An effective anti-intrusion, anti-climb chain link fencing system requires the suggested vertical portion and overhang as shown in the drawings to arrive at an overall height of 16' 3". The overhang portion fabric can be of a lighter gauge. Bottom rail to be secured in the center by threading the rail through an eye bolt manufactured of 1/2 inch diameter galvanized steel rod set in a concrete footing. All bolts to be 3/8 inch carriage bolts peened to prevent removal of the nut. Alternate additional security should be included by adding buried fabric. The mesh should be tied to the framework with 9 gauge steel ties at a maximum of 12 inches on center.



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